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| 10/629,386 | 07/29/2003 | Yassin Aden Awad | 5243-042-US01 | 6529 |
| 79184 7590 01/13/2009 HANIFY & KING PROFESSIONAL CORPORATION 1875 K STREET, NW SUITE 707 WASHINGTON, DC 20006 | | | | |
| EXAMINER | | | | |
| VU, MICHAEL T | | | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/629,386

Applicant(s)

AWAD ET AL.

Examiner

MICHAEL T. VU

Art Unit

2617

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-18 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-856)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/25/2008 has been entered.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 11/13/2008 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Objections

3. Claims 2-18 are objected to because of the following informalities:
For example: Claim 2 "**A** method as claimed in claim 1, wherein" All of the Dependent claims should change to "**the** method as claimed in claim 1, wherein....." ** Appropriate correction is required **.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4, 6-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mogensen (US 2004/0105460) in view of Larsson (US 5,241,690), and further in view of Haartsen (US 2002/0187799).

Regarding claims 1, 19, 20, 21, 22 and 23, Mogensen teaches an adaptive modulation and coding [0004] method comprising: selecting one of a plurality of different available modulation and coding levels to apply to a signal transmitted from a transmitter to a receiver [0004-0005, 0038-0042], the selection being based on a comparison between a signal transmission quality and a threshold value [0015-0016, 0046]; and

But Mogensen does not teach adjusting the threshold value when the signal transmission quality is within a predetermined range of the threshold value, and maintaining the threshold value unchanged when the signal transmission quality is outside that range.

However, Larsson teaches an adjusting the threshold value when the signal transmission quality is within a predetermined range of the threshold value (Col. 1, line

65 to Col. 2, line 67), and maintaining the threshold value unchanged when the signal transmission quality is outside that range (See Col. 2, line 30 to Col. 3, line 31).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Mogensen, with Larsson's teaching, in order to actual adjustment and/or to control of the transmission power in radio communication between a mobile station and a base station for avoiding those disturbance and/or interference occurs.

But Mogensen and Larsson do not clearly teach leaves a selected modulation and coding level unchanged even though the comparison between a signal transmission quality and the threshold value indicates that the modulation and coding level should be increase, when the transmitted signal is not successfully received at the receiver.

However, Haartsen teaches leaves a selected modulation and coding level unchanged even though the comparison between a signal transmission quality [0041-0047] and the threshold value indicates that the modulation [0016-0020] and coding level should be increase [0016-0020], when the transmitted signal is not successfully received at the receiver [0016-0020, 0030-0035, 0041-0045].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Mogensen and Larsson, with Haartsen's system, in order to increase the effectively power based on signal strength that modify the bandwidth, modulation symbol rate, and coding rate of a communication channel to improve the performance of the communication channel and to manage the allocatable

frequency spectrum more effectively for reducing signal-to-noise-plus-interference ratios.

Regarding claim 2, Mogensen, Larsson, and Haartsen teach a method as claimed in claim 1, wherein the signal transmission quality is a signal-to-interference ratio [0016-0020] of Haartsen.

Regarding claim 3, Mogensen, Larsson, and Haartsen teach a method as claimed in claim 1, wherein the signal transmission quality is measured by the receiver [0041-0044] of Haartsen.

Regarding claim 4, Mogensen, Larsson, and Haartsen teach a method as claimed in claim 1, wherein in the adjusting step the threshold value is increased by an upward amount when the signal is not received successfully by the receiver [0016-0020, 0030-0035, 0041-00454], and is decreased by a downward amount when the signal is received successfully by the receiver [0016-0020, 0030-0035, 0041-0044] all of Haartsen.

Regarding claim 6, the combination of Mogensen, Larsson, and Haartsen teach a method as claimed in claim 4, wherein the upward amount is different from the downward amount [0016-0020, 0041-0044] all of Haartsen.

Regarding claim 7, the combination of Mogensen, Larsson, and Haartsen teach a method as claimed in claim 6, wherein the downward amount is smaller than the upward amount [0016-0020, 0030-0035] all of Haartsen.

Regarding claim 8, the combination of Mogensen, Larsson, and Haartsen teach a method as claimed in claim 4, wherein a ratio of the downward amount to the upward

amount is dependent upon a target error rate of the received signal [0016-0020, 0030-0035] all of Haartsen.

Regarding claim 9, the combination of Mogensen, Larsson, and Haartsen teach a method as claimed in claim 4, wherein the downward amount **and/or** the upward amount is/are dependent upon a difference between the threshold value and the signal transmission quality [0012, 0016-0020] of Haartsen.

Regarding claim 10, the combination of Mogensen, Larsson, and Haartsen teach a method as claimed in claim 9, wherein each the amount increases as the difference decreases [0016-0020] of Haartsen.

Regarding claim 11, Mogensen, Larsson, and Haartsen teach a method as claimed in claim 1, having a threshold value for each pair of adjacent the levels [0016-0020], and in the selecting step the selection is based on a comparison between the signal transmission quality and the threshold values [0016-0020, 0030-0035] all of Haartsen.

Regarding claim 12, the combination of Mogensen, Larsson, and Haartsen teach a method as claimed in claim 11, wherein each the threshold value is adjusted only when the signal transmission quality is within a predetermined range of the threshold value concerned [0016-0020, 0030-0035] all of Haartsen.

Regarding claim 13, the combination of Mogensen, Larsson, and Haartsen teach a method as claimed in claim 12, wherein the predetermined range for at least one the threshold value is different from the predetermined range for another the threshold value [0039-0051] of Mogensen.

Regarding claim 14, Mogensen, Larsson, and Haartsen teach a method as claimed in claim 1, wherein the adjusting step and the selecting step are carried out in the receiver [0016-0020, 0030-0035], and the receiver reports the selected level to the transmitter [0016-0020, 0042-0044] all of Haartsen.

Regarding claim 15, Mogensen, Larsson, and Haartsen teach a method as claimed in claim 1, wherein the receiver reports the signal transmission quality to the transmitter [0012, 0016-0020], and the adjusting step and selecting step are carried out in the transmitter [0016-0020, 0030-0035] all of Haartsen.

Regarding claim 16, Mogensen, Larsson, and Haartsen teach a method as claimed in claim 1, wherein the selecting step is carried out after the adjusting step [0016-0020, 0030-0035], and in the selecting step selection of a higher level [0012-0020], if indicated by the comparison between the signal [0016-0020, 0030-0035] all of Haartsen.

Regarding claim 17, Mogensen, Larsson, and Haartsen teach a method as claimed in claim 1, wherein the transmitter is a base station of a wireless communication system [0001-0004], and the receiver is a user equipment of the system [0001-0004] all of Haartsen.

Regarding claim 18, the combination of Mogensen, Larsson, and Haartsen teach a method as claimed in claim 17, wherein the signal is a downlink packet access signal [0016-0020, 0030-0035] of Haartsen.

Allowable Subject Matter

6. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten claim 5 in independent form including all of the limitations of the base claim and any intervening claims.

With respect to claim 5, the prior art of record fails to teach alone or in combination, a method as claimed in claim 1, wherein in the adjusting step the threshold value is increased by an upward amount when the signal received by the receiver fails a cyclic redundancy check, and is decreased by a downward amount when the received signal passes the cyclic redundancy check.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Vu whose telephone number is (571) 272-8131. The examiner can normally be reached on 8:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Charles N. Appiah can be reached on 571-272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael Vu/
Examiner
AU-2617

/Charles N. Appiah/
Supervisory Patent Examiner, Art Unit 2617